CLAIMS

1. A composite particle comprised of a larger particle and, supported thereon, smaller particles wherein the smaller particles are photocatalyst-containing fine particles having an average particle diameter in the range of 0.005 μm to 0.5μm as calculated from a BET specific surface area, and the larger particle has an average particle diameter in the range of 2 μm to 200 μm as measured by the laser diffraction-scattering particle size measuring method.

2. The composite particle according to claim 1, wherein the smaller particles comprise titanium dioxide as a photocatalyst.

3. The composite particle according to claim 1, wherein the smaller particles are composite particles comprising titanium dioxide and an inorganic compound exhibiting no photo-catalytic activity.

4. The composite particle according to claim 3, wherein the inorganic compound exhibiting no photo-catalytic activity is silica and the content of silica in the smaller particles is at least 0.5% by mass but not larger than 50% by mass, based on the mass of the smaller particles.

5. The composite particle according to any one of claims 1 to 4, wherein the smaller particles contain a Brφnsted acid salt.

6. The composite particle according to claim 5, wherein the smaller particles are titanium dioxide particles containing the Brφnsted acid salt on the surfaces of particles.

7. The composite particle according to claim 6, wherein the Brφnsted acid salt is a condensed phosphate.

8. The composite particle according to any one of claims 5 to 7, wherein the smaller particles contain the Brφnsted acid salt in an amount in the range of 0.01% by mass to 50% by mass.

9. The composite particle according to any one of claims 2 to 8, wherein the titanium dioxide comprises a brookite crystalline phase.

10. The composite particle according to any one of claims

1 to 9, wherein the larger particle is a spherical resin particle having a melting point of at least 150°C.

11. The composite particle according to any one of claims 1 to 9, wherein the larger particle is comprised of a hydroxide, oxide or carbonate, which contains at least one kind of element selected from the group consisting of aluminum, magnesium, calcium and silicon.

12. The composite particle according to any one of claims 1 to 11, wherein the amount of smaller particles is in the range of 0.5% by mass to 40% by mass based on the mass of the larger particle.

13. A method of producing a composite particle as claimed in any one of claims 1 to 12, comprising dry-mixing the smaller particles and the larger particle by a ball mill, characterized in that the dry-mixing is carried out under conditions such that k value as defined by the following equation (1) is in the range of 50 to 50,000,

equation (1): $k = (wm/wp) \times d \times n \times t$

where k is energy constant for dry-mixing,

wp is total mass (g) of particles to be dry-mixed,

wm is mass (g) of mixing media,

d is inner diameter (m) of ball mill,

n is number of rotation (rpm) of ball mill, and

t is time (min) for dry-mixing.

14. A method of producing a composite particle as claimed in any one of claims 1 to 12, comprising mixing, pulverizing and stirring the smaller particles and the larger particle by a powder-treating apparatus provided with rotary blades, characterized in that the mixing, pulverizing and stirring are carried out under conditions such that k2 value as defined by the following equation (2) is in the range of 250 to 50,000,

equation (2): $k2 = n \times t$

where n is number of rotation (rpm) of rotary blades, and

t is time (min) for mixing, pulverizing and stirring.

15. A method of producing a composite particle as claimed in any one of claims 1 to 12, comprising mixing, pulverizing and stirring the smaller particles and the larger particle by a

shaking-type powder-treating apparatus, characterized in that the mixing, pulverizing and stirring are carried out under conditions such that k3 value as defined by the following equation (3) is in the range of 50 to 50,000,

equation (3): $k3 = n \times t$

where n is number of shaking per minute, and

t is time (min) for mixing, pulverizing and stirring.

16. A organic polymer composition comprising an organic polymer and a composite particle as claimed in any one of claims 1 to 12, wherein the amount of the composite particle is in the range of 0.01% to 80% by mass based on the total mass of the organic polymer composition.

17. The organic polymer composition according to claim 16 wherein the organic polymer is at least one kind of resin selected from the group consisting of synthetic thermoplastic resins, synthetic thermosetting resins and natural resins.

18. The organic polymer composition according to claim 16 or 17 wherein the organic polymer composition is a compound.

19. The organic polymer composition according to claim 16 or 17 wherein the organic polymer composition is a master batch.

20. A shaped article made by shaping an organic polymer composition as claimed in any one of claims 16 to 19.

21. A coating composition comprising a composite particle as claimed in any one of claims 1 to 12.

22. A paint composition comprising a composite particle as claimed in any one of claims 1 to 12.

23. A structure comprising on a surface thereof a composite particle as claimed in any one of claims 1 to 12.

24. A cosmetic composition comprising a composite particle as claimed in any one of claims 1 to 12.

25. A fiber comprising a composite particle as claimed in any one of claims 1 to 12.

26. A film comprising a composite particle as claimed in any one of claims 1 to 12.